

Serial No. **10/809,684**
Amdt. dated December 5, 2007
Reply to Office Action of August 9, 2007

Docket No. **LT-0055**

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for recording/managing audio level information, comprising:

partitioning an audio file into a ~~first header~~ information area, an audio data area, and a ~~second tag~~ information area; and

recording an audio level information in ~~said second the tag~~ information area of an audio file, ~~said the~~ audio level information indicating an output level of audio data to be reproduced; and

recording an audio level flag information in the header information area, the audio level flag information indicating whether the audio level information has been recorded in the tag information area.

2. (Canceled)

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3. (Currently Amended) The method of claim 1, wherein said the audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file, and Wave-format audio file.

4. (Currently Amended) The method of claim 1, wherein said the audio level information is a peak level or an average level of said the audio file.

5. (Canceled)

6. (Currently Amended) A method for adjusting an output level of audio data, comprising:
receiving an audio file;
checking audio level information recorded in the received audio file; and
adjusting an output level of audio data to be reproduced of said the received audio file, on the basis of the checked audio level information, wherein the audio file is separated into a header information area, an audio data area, and a tag information area, and wherein the audio level information is stored in the tag information area and an audio level information flag is stored in the header information area.

7. (Canceled)

8. (Currently Amended) The method of claim 76, wherein ~~said-the~~ checking comprises:

checking the audio level information ~~from flag in the header information area of said the~~ received audio file, ~~said identification the audio level information flag~~ indicating whether ~~said the~~ audio level information has been recorded in ~~said the tag information area of said the~~ received audio file; and

checking ~~said the~~ audio level information recorded in ~~said the tag information area of said the~~ received audio file when ~~said the checked identification audio level information flag~~ indicates ~~said that the~~ audio level information was recorded.

9. (Canceled)

10. (Currently Amended) The method of claim 76, wherein ~~said-the~~ adjusting comprises:

comparing ~~said-the checked~~ audio level information with a predetermined reference level;

adjusting a gain of said the audio data to be reproduced in accordance with the comparison result and an audio volume level set by a user; and
amplifying and outputting said the audio data to be reproduced, at the adjusted gain.

11. (Currently Amended) The method of claim 10, wherein said the adjusting a gain comprises increasing the gain of an audio amplifier when said the checked audio level information is lower than said the predetermined reference level, and reducing the gain when said the checked audio level information is higher than said the predetermined reference level.

12. (Currently Amended) The method of claim 10, wherein said the adjusting a gain comprises:

calculating a ratio between said the predetermined reference level, a current audio file, and a next audio file; and

modifying the gain according to the ratio, and wherein said the predetermined reference level is an average audio level of audio files requested to be played.

13. (Currently Amended) The method of claim 6, further comprising searching a recording medium for the received audio file that was requested to be played, said the recording

medium storing a plurality of audio files, wherein said the received audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file, and wherein said the recording medium is any one of a memory, optical disc, and hard disk included in any one of a portable terminal, portable computer, and personal computer having a digital audio playback function.

14. (Currently Amended) An article including a A machine-readable storage medium containing instructions for adjusting an output level of audio data, said the instructions, when executed in a digital audio system, causing the system to:

search a recording medium for an audio file requested to be played, said the recording medium storing a plurality of audio files;

check audio level information recorded in the searched audio file; and
adjust an output level of audio data to be reproduced of said the searched audio file responsive to the checked audio level information, wherein the audio file is separated into a header information area, an audio data information area, and a tag information area, and wherein the audio level information is recorded in the tag information area and an audio level information flag is recorded in the header information.

15. (Currently Amended) The article medium of claim 14, wherein said the searched audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file, and Wave-format audio file, and wherein said the recording medium is any one of a memory, optical disc, and hard disk included in any one of a portable terminal, portable computer, and personal computer having a digital audio playback function.

16. (Canceled)

17. (Currently Amended) The article medium of claim 14, wherein the storage medium contains further containing instructions for causing the system to:

check identification for the audio level information from flag in the header information area of said the searched audio file, said the identification audio level information flag indicating whether said the audio level information has been recorded in said the tag information area of said the searched audio file; and

optionally check said the audio level information recorded in said the tag information of said the searched audio file on the basis of the checked identification audio level information flag.

18. (Currently Amended) The article medium of claim 46 14, wherein the storage medium contains further containing instructions for causing the system to:

compare said the checked audio level information with a predetermined reference level;

adjust a gain of an audio amplifier in accordance with the comparison result; and amplify and output said the audio data to be reproduced, at the adjusted gain.

19. (Canceled)

20. (Currently Amended) A digital audio system, comprising:

a recording means for storing device configured to store a plurality of audio files; a conversion means for converting converter configured to convert an audio file read from said the recording means device into audio data to be reproduced;

control means for searching said a controller configured to search the recording means device for an audio file requested by a user to be played, checking check audio level information recorded in the searched audio file, and adjusting adjust an output level of audio data to be reproduced of said the searched audio file according to the checked audio level information and a user set audio volume level; and

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an amplifier means for amplifying configure to amplify the converted audio data according to the adjusted output level and outputting output the amplified audio data, wherein the controller is configured to compare the checked audio level information with a predetermined reference level and adjust the gain of the audio amplifier in accordance with the comparison result and a system audio volume level to adjust the output level of the audio data to be reproduced, and wherein the predetermined reference level is an average audio level of audio files requested to be played.

21. (Currently Amended) The system of claim 20, wherein the digital audio system is any one of a portable terminal, a portable computer, and a personal computer having a playback function for said the audio files, and wherein said the searched audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file.

22. (Currently Amended) The system of claim 20, comprising:

an interfacing means for interfacing to device configured to interface to a personal computer or contents provider server in order to download said the audio files.

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23. (Currently Amended) The system of claim 20, wherein said the audio level information is recorded in a tag information of said the searched audio file, and wherein said the searched audio file includes a header information area, said the header information area containing identification an audio level information flag indicative of whether said the audio level information has been recorded in said the tag information of said the searched audio file.

24. (Currently Amended) The system of claim 23, wherein said control means the controller is adapted configured to first check said identification the audio level information flag and selectively check said the audio level information recorded in said the tag information of said the searched audio file on the basis of the checked identification audio level information flag.

25. (Canceled)

26. (Canceled)

27. (Currently Amended) An apparatus for adjusting an output level of audio data in a digital audio system, said the digital audio system including a recording medium configured to store a plurality of audio files including at least two audio file types, and a converter configured

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to convert an audio file read from said the recording medium into audio data to be reproduced, said the apparatus comprising:

 a controller configured to search said the recording medium for an audio file selected for playback, check audio level information recorded in the selected audio file, and adjust an output level of audio data to be reproduced of said the selected audio file responsive to the checked audio level information; and

 an audio amplifier configured to amplify the converted audio data and output the amplified audio data, wherein the controller is configured to compare the checked audio level information with a predetermined reference level and adjust the gain of the audio amplifier in accordance with the comparison result and a user set audio volume level, and wherein the predetermined reference level is an average audio level of audio files requested to be played, and wherein the audio level of the audio files is a peak level or an average level of the audio data to be reproduced for each audio file.

28. (Currently Amended) The apparatus of claim 27, comprising a speaker to broadcast the amplified audio data, wherein said the selected audio file is any one of an MP3 audio file, MPEG2 audio file, AC3 audio file, WMV-format audio file and Wave-format audio file.

29. (Currently Amended) The apparatus of claim 27, wherein said the audio level information is recorded in a tag information area of said the searched audio file.

30. (Currently Amended) The apparatus of claim 29, wherein said the searched audio file includes a header information area, said the header information area containing identification an audio level information flag indicative of whether said the audio level information has been recorded in said the tag information area of said the searched audio file, and wherein said the controller is adapted configured to first check said identification the audio level information flag and check said the audio level information recorded in said the tag information area of said the searched audio file when the checked audio level identification information tag indicates that the audio level information was recorded.

31. (Canceled)

32. (Canceled)